



Department of Environmental Protection

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Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

June 11, 2015

Christopher Knuth, Health Director
City of Leominster
25 West St
Leominster, MA 01453

Re: **Leominster**
Transmittal No.: X264851
Original Transmittal No.: W018797
Application No. CE-15-009
Class: SM25
FMF No.: 39424
**Air Quality Plan Approval - Minor
Modification**

Dear Mr. Knuth:

The Massachusetts Department of Environmental Protection ("Department"), Bureau of Air and Waste has reviewed your Limited Plan Application ("Application") listed above. This application concerns a Minor Modification to a previously issued Non-Major Comprehensive Plan Approval (Tr. No. W018797) at the Leominster Municipal Sanitary Landfill at Mechanic Street, Leominster, Massachusetts ("Facility").

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-O, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

This Plan Approval, Tr. No. X264851, supersedes the previous Plan Approval Tr. No. W018797 issued to the City of Leominster.

AIR QUALITY PLAN APPROVAL
MECHANIC STREET LANDFILL
LEOMINSTER, MASSACHUSETTS

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I. HISTORY

The City of Leominster ("the Permittee") installed an enclosed flare and gas collection system to control emissions from their capped Mechanic Street Landfill. The Permittee entered into ACOP-CE-00-4001 with the Department on October 6, 2000 for violation of 310 CMR 19.132(h).

This Plan Approval (Tr. No. X624851) incorporates a minor modification to Tr. No. W018797 regarding the requirement at Section VII. C. to inspect the flare on a weekly basis. The Plan Approval requires inspections be conducted quarterly, specifies the items to be inspected and requires the installation of a remote control and data acquisition system.

II. PROJECT DESCRIPTION

Plan Approval Tr. No. W018797 was issued for the installation of a single landfill gas flare (EU 1) designed to burn as a maximum of 500 SCFM landfill gas. A description of the approved emission unit is listed in Table 1. Up to 85% of the landfill gas will be captured and vented to EU 1. EU 1 will operate with a removal efficiency of 98%.

III. EQUIPMENT UNIT IDENTIFICATION

<p style="text-align: center;">Table 1 Enclosed Flare for the City of Leominster's Mechanic Street Landfill, Leominster</p>					
Emission Unit	Manufacturer and Model Number	Maximum Heat rate input (MMBtu/hr.) ¹	Primary Fuel	Operating Temperature (°F) and minimum residence time (seconds)	Flow Rate SCFM
1	Landfill gas flare	30	LFG	1400 - 1800 0.7 seconds at 1800°F	500 maximum

Table 1 Notes:

1. Based on a higher heating value not to exceed 1000 BTU/scf.

Table 1 Key:

°F	=	Degrees Fahrenheit
MMBtu/hr.	=	Million British thermal units per hour
LFG	=	Landfill gas
scf	=	standard cubic feet
SCFM	=	standard cubic feet per minute as measured at 298°K (68°F) and a pressure of 101.3 kilopascals (29.92 inches Hg).

IV. EMISSIONS

The burning of landfill gas in the enclosed flare results in emissions being released to the ambient air of Particulate Matter (PM), Sulfur Dioxide (SO₂), Nitrogen Oxides (NO_x), Carbon Monoxide (CO) and Volatile Organic Compounds (VOC).

V. FACILITY LIMITS

The Permittee shall comply with the emission limits/restrictions presented in Table 2 below.

Table 2				
Emission Unit	Fuel	Pollutant	Emission Limit/Standard	Restrictions
1	LFG, propane or natural gas	PM	0.10 lbs/MMBtu and 7.23 tpy	The primary fuel shall be LFG at a maximum rate of 500 SCFM. Propane or natural gas shall be used for a pilot. Fuel usage shall not exceed 22.3 MMSCF per month and 262.8 MMSCF per 12 month rolling total.
		SO2	0.02 lbs/MMBtu and 1.1 tpy	
		NOx	0.08 lbs/MMBtu and 5.8 tpy	
		CO	0.2 lbs/MMBtu and 14.5 tpy	
		VOC	0.02 lbs/MMBtu and 1.45 tpy	
		Visible Emissions	Smoke and opacity shall not exceed 10% opacity at any time of operation.	
		Noise	Shall not exceed the Department Noise Policy 90-001 and in no case shall cause a condition of air pollution as defined in 310 CMR 7.00.	

Table 1 Key:

lbs	=	pounds
LFG	=	Land fill gas
PM	=	Particulate
MMBTU	=	million British thermal units
SCFM	=	standard cubic feet per minute as measured at 298K (68°F) and a pressure of 101.3 kilopascals (29.92 inches Hg)
MMSCF	=	million standard cubic feet
tpy	=	tons per 12-month period
SO2	=	sulfur dioxide
NOx	=	oxides of nitrogen
CO	=	carbon monoxide
VOC	=	volatile organic compounds
%	=	percent

VI. SPECIAL CONDITIONS

- A. The landfill gas collection system shall be operated so that the methane concentration is less than 500 parts per million above background at the surface of the landfill. The Permittee shall monitor for this on a quarterly basis.
- B. EU 1 shall be operated at all times when LFG is vented to it.
- C. EU 1 shall be operated with a flame present at all times.
- D. EU 1 shall reduce non-methane organic compounds ("NMOC") by 98 weight percent or reduce the outlet NMOC control concentration to less than 20 parts per million by volume, dry basis as hexane at 3 percent oxygen.

VII. MONITORING /TESTING REQUIREMENTS

- A. The Permittee shall sample the heat value of the landfill gas on a quarterly basis.
- B. The Permittee shall monitor and record landfill gas flow on a monthly basis.
- C. The Permittee shall visually inspect EU 1 on a quarterly basis and record this inspection. The inspection will consist of the following:
 - 1) inspection of the general condition of the flare station, pipes, pumps, valves and security fencing,
 - 2) observation of the flare in burn, vent and off modes,
 - 3) verification that emergency shutdown, vent and other switches are operational,
 - 4) inspection of computer systems and control panels for wire damage,
 - 5) visual inspection of the flare stack, damper, thermocouples valves and blowers, and
 - 6) inspection of the gas sensors for correct readings and calibration if necessary.
- D. In accordance with 310 CMR 7.04(4)(a), EU 1 shall be inspected and maintained in accordance with the manufacturer's recommendations and tested for efficient operation at least once in each calendar year. The results of said inspection, maintenance and testing and the date upon which it was performed shall be recorded and posted conspicuously on or near the permitted equipment.
- E. Emission Testing to demonstrate compliance with the Emission Limits specified in Table 2 shall be in accordance with EPA approved reference test methods unless otherwise approved by EPA and the Department or unless otherwise specified.
- F. In accordance with 310 CMR 7.13, the Department may require testing of any pollutants if deemed necessary to ascertain the mass emission rates and relationship to equipment design and operation. The Permittee shall conduct stack testing when the Department has

determined that such stack testing is necessary to ascertain compliance with the Department's regulations or design approval provisions. Such stack testing shall be:

- 1) conducted by a person knowledgeable in stack testing, and
- 2) conducted in accordance with procedures contained in a test protocol which has been approved by the Department, and
- 3) conducted in the presence of a representative of the Department when such is deemed necessary in accordance with 310 CMR 7.13(1).

- G. The Permittee shall install, operate and maintain a Supervisory Control and Data Acquisition System (SCADA) on EU 1. The SCADA shall have the ability to remotely: regulate the blower run times, monitor gas flows, monitor oxygen and methane levels and stack temperatures, and notify the operator of any emergencies and shut downs.

VIII. RECORDKEEPING REQUIREMENTS

- A. The Permittee shall establish and continue a readily available record keeping system for EU 1. All records shall be maintained up-to-date such that year-to-date information is readily available for Department examination. The Permittee shall keep such records for five (5) years. Record keeping shall, at a minimum, include:
1. The initiation and completion dates for the proposed construction, reconstruction, alteration;
 2. a record of all malfunctions including, at a minimum: the date and time the malfunction occurred; a description of the malfunction and the corrective action taken; the date and time corrective actions were initiated; and the date and time corrective actions were completed and the facility returned to compliance.
 3. A record of all scheduled maintenance.
 4. Record of quarterly visual inspection.
 5. Record of quarterly heating value of landfill gas.
 6. Record of landfill's monitored methane background concentration.
- B. The Permittee shall maintain a copy of this Plan Approval, and any subsequent modifications of this Plan Approval, in a readily available location for as long as the Plan Approval is valid. The Plan Approval is valid until one of the following conditions occur: the equipment is dismantled or removed from the facility, the facility notifies the Department that the Plan Approval is no longer valid, the equipment is substantially reconstructed or altered and subject to 310 CMR 7.02, the Plan Approval is superseded by another approval, or the Department revokes the Plan Approval in accordance with 310 CMR 7.02(3)(k).
- C. The Permittee shall maintain a copy of the approved Standard Operating Procedure (SOP) and Standard Maintenance Procedure (SMP) in a readily available location for as

long as this Plan Approval is valid. Updates or revisions to the SOP and SMP shall be submitted for Department approval prior to initiating the modification(s).

IX. REPORTING REQUIREMENTS

- A. The Permittee shall register on a form obtained from the Department such information as the Department may specify in accordance with 310 CMR 7.12(1), including:
1. The nature and amounts of emissions from the facility.
 2. Information which may be needed to determine the nature and amounts of emissions from the facility.
 3. Any other information pertaining to the facility, which the Department requires.
- B. The Central Regional Office of the Bureau of Air and Waste must be notified by telephone or fax as soon as possible, but in no case later than 24 hours, after the occurrence of any UPSETS or MALFUNCTIONS to the facility equipment that result in emission to the ambient air in violation of permitted emission levels and/or a condition of air pollution.
- C. The Permittee shall provide, upon the Department's request, any records required by the applicable requirements identified in this Plan Approval, or the emissions of any air contaminant from the facility. Records shall be submitted to the Department within 30 days of the request by the Department, or within a longer time period if approved in writing by the Department.

X. GENERAL CONDITIONS

- A. All notification and reporting requirements contained herein shall be directed to the Department of Environmental Protection, Bureau of Air and Waste, 8 New Bond Street, Worcester, Massachusetts, 01606, unless otherwise noted.
- B. SUSPENSION - This Plan Approval may be suspended, modified, or revoked by the Department if, at any time, the Department determines that the facility is violating any condition or part of the approval.
- C. OTHER REGULATIONS - This approval does not negate the responsibility of the Permittee to comply with this or any other applicable federal, state, or local regulations now or in the future. Nor does this approval imply compliance with any other applicable federal, state or local regulation now or in the future.
- D. EXISTING APPROVALS - This Plan Approval (Tr. No. X264851) shall supersede Plan Approval Tr. No. W018797 in its entirety, except that any application materials

submitted prior to the issuance of Plan Approval Tr. No. W018797 and appended to that Plan Approval shall continue to remain in effect.

- E. ASBESTOS – Should asbestos remediation/removal be required as a result of this Plan Approval, such asbestos remediation/removal shall be done in accordance with 310 CMR 7.15.
- F. MODIFICATIONS - Any proposed increase in emissions above the limits contained in this Plan Approval must first be approved in writing by the Department pursuant to 310 CMR 7.02. In addition, any increase may subject the facility to additional regulatory requirements.
- G. REMOVAL OF EQUIPMENT - No person shall cause, suffer, allow, or permit the removal, alteration or shall otherwise render inoperative any air pollution control equipment or equipment used to monitor emissions, which has been installed as a requirement of 310 CMR 7.00, other than for reasonable maintenance periods or unexpected and unavoidable failure of the equipment, provided that the Department has been notified of such failure, or in accordance with specific written approval of the Department.
- H. ACCESS - The Permittee must, upon request, provide Department representatives or the U.S. EPA with immediate, escorted access to any area within the plant for purposes of checking records or otherwise determining compliance during normal business hours.
- I. MALFUNCTION - means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.
- J. EMERGENCY - means any situation arising from sudden and reasonable unforeseeable events beyond the control of this source, including acts of God, which would require immediate corrective action to restore normal operation, and that causes the source to exceed a technology based limitation under the permit, due to unavoidable increases in emission attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operations, operator error or decision to keep operating despite knowledge of these things.

XI. APPEAL PROCESS

This Plan Approval is an action of the Massachusetts Department of Environmental Protection. If you are aggrieved by this action, you may request an adjudicatory hearing.

A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

The Department may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Stephen Majkut by telephone at 508-767-2773, by e-mail at stephen.majkut@state.ma.us or in writing at the letterhead address.

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Permit Chief
Bureau of Air and Waste

ec: John Bobrek, P.E., Woodward & Curran
Yi Tian, MassDEP/Boston
Kim McKoy, MassDEP/CERO

LIST OF PERTINENT INFORMATION, TRANSMITTAL No. W018797

Name of Facility: City of Leominster, Mechanic Street Landfill Flare

Location: Leominster, Massachusetts

Submitted By: SECOR International, Inc.

Attested To By: Alan Benevides, P.E. Number 37893

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- Two Non-Major Comprehensive Plan Applications, Date Received: March 2, 2001, revised May 24, 2001 and September 7, 2001 consisting of:

BWP AQ 02
BWP AQ CPA-3
BWP AQ SFP-3
BWP AQ SFC-5
BWP AQ SFC-7